

# SERVICE MANUAL

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CD MECHANISM

BASIC CD MECHANISM:KSM-880CAB

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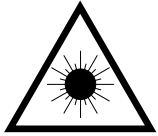
TYPE
Z8RDLC
YZ8RDLM
Z8RDLM
Z8RDLC1
Z8RDM
YZ8RDM
Z8RDC
Z8RDC1

## PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

### WARNING!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

### VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylitävälle näkymättömälle lasersäteilylle.

### WARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvisning, kan användaren utsättas för osynlig laserstråling, som överskrider gränsen för laserklass 1.

### CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

### ATTENTION

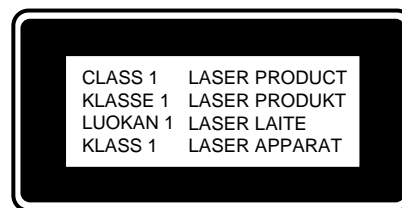
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

### ADVARSEL!

Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.

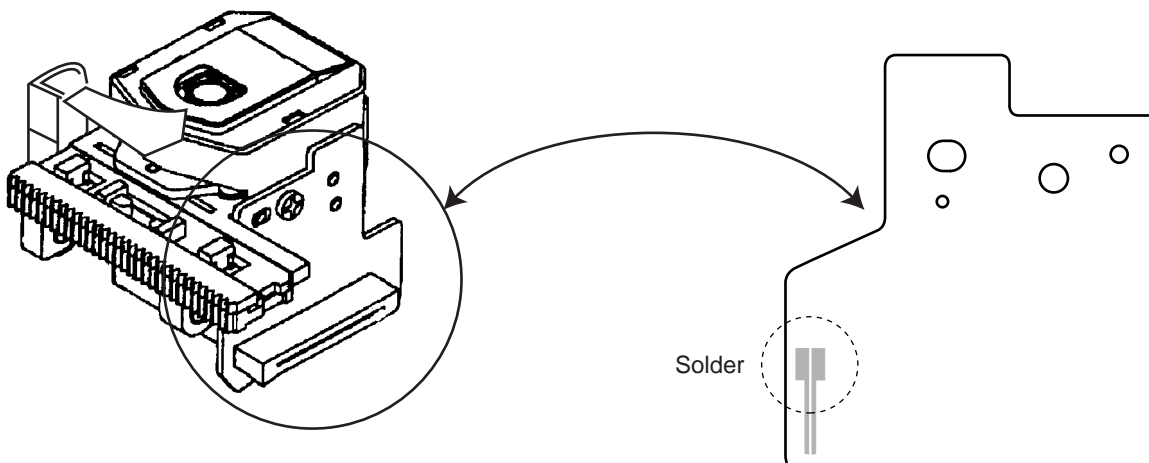
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



## Precaution to replace Optical block

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

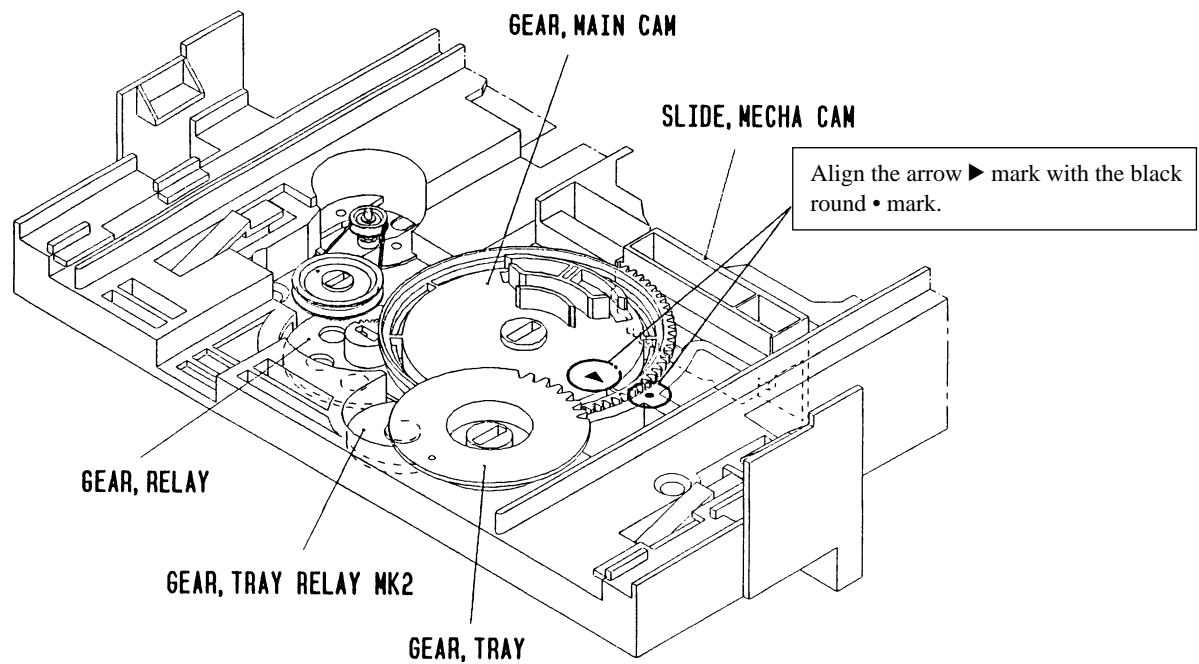
- 1) After the connection, remove solder shown in the figure below.



## How to Adjust the Rotating Phase of the Gear, Main Cam

- 1) Push down the hooking catch of the CHAS. MECH, and remove the TRAY.
- 2) Align the arrow mark of the Gear, Main Cam with the black round mark of the CHAS, MECHA as shown below.
- 3) Confirm that the Slide, Mech Cam is located in the right position, then insert the TRAY gently.

**Caution:** If the rotating phase of the Gear, Main Cam is incorrectly adjusted, the chucking operation and tray movement will have malfunction.



# ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。  
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC				C104	87-012-154-080		C-CAP,S 150P-50 CH
				C105	87-010-196-080		CHIP CAPACITOR,0.1-25
	87-A20-446-010	C-IC,LA9241ML		C109	87-010-197-080		CAP, CHIP 0.01 DM
	87-A21-319-010	C-IC,LC78622NE		C111	87-010-312-080		C-CAP,S 15P-50 CH
	87-A20-445-010	IC,BA5936		C112	87-010-154-080		CAP CHIP 10P
TRANSISTOR				C113	87-010-178-080		CHIP CAP 1000P
				C115	87-010-404-080		CAP, ELECT 4.7-50V
	87-026-609-080	TR,KTA1266GR		C116	87-010-196-080		CHIP CAPACITOR,0.1-25
	87-026-295-080	TR,DTC144TK		C117	87-010-263-040		CAP,E 100-10
	87-A30-087-080	C-FET,2SK2158		C118	87-010-178-080		CHIP CAP 1000P
	87-026-237-080	CHIP-TR,DTC124XK					
	87-A30-076-080	C-TR,2SC3052F		C121	87-010-403-080		CAP, ELECT 3.3-50V
				C122	87-010-403-080		CAP, ELECT 3.3-50V
	87-A30-075-080	C-TR,2SA1235F		C123	87-010-180-080		C-CER 1500P
				C124	87-010-180-080		C-CER 1500P
DIODE				C132	87-010-196-080		CHIP CAPACITOR,0.1-25
	87-020-465-080	DIODE,1SS133 (110MA)		C135	87-010-314-080		C-CAP,S 22P-50V
	87-020-331-080	CHIP-DIODE,DAN202K		C191	87-010-263-040		CAP,E 100-10
	87-A40-337-080	ZENER,MTZJ 6.8B		C192	87-010-178-080		CHIP CAP 1000P
	87-A40-313-080	C-DIODE,MC 2840		C192	87-010-178-080		CHIP CAP 1000P
	87-A40-620-080	ZENER,MTZJ6.2A		C193	87-010-196-080		CHIP CAPACITOR,0.1-25
				C201	87-010-196-080		CHIP CAPACITOR,0.1-25
				C204	87-010-196-080		CHIP CAPACITOR,0.1-25
3CD C.B				C205	87-010-196-080		CHIP CAPACITOR,0.1-25
				C206	87-010-196-080		CHIP CAPACITOR,0.1-25
				C207	87-010-196-080		CHIP CAPACITOR,0.1-25
	C11	87-012-393-080	C-CAP,S 0.22-16 R K				
	C12	87-012-157-080	C-CAP,S 330P-50 CH	C208	87-010-196-080		CHIP CAPACITOR,0.1-25
	C13	87-016-369-080	C-CAP,S 0.033-25 B K	C211	87-010-405-040		CAP,E 10-50
	C14	87-A10-201-080	C-CAP,S0.33-16 KB	C212	87-010-405-040		CAP,E 10-50
	C15	87-010-213-080	C-CAP,S 0.015-50 B	C213	87-010-196-080		CHIP CAPACITOR,0.1-25
			<Z8RDC,Z8RDC1,Z8RDM,YZ8RDM>	C251	87-010-322-080		C-CAP,S 100P-50 CH
C16	87-010-992-080	C-CAP,S 0.047-25 B	<Z8RDC,Z8RDC1,Z8RDM,YZ8RDM>	C252	87-010-322-080		C-CAP,S 100P-50 CH
C16	87-016-083-080	C-CAP,S 0.15-16 RK	<Z8RDL,M,Z8RDL,C,Z8RDL,C1,YZ8RDL,M>	C253	87-010-322-080		C-CAP,S 100P-50 CH
C17	87-010-184-080	CHIP CAPACITOR 3300P(K)		C281	87-010-382-040		CAP,E 22-25 SME
C18	87-A11-177-080	C-CAP,S 0.15-16 K B		C401	87-A10-730-080		CAP,E 1000-16 SMG
C19	87-010-992-080	C-CAP,S 0.047-25 B		C402	87-010-197-080		CAP, CHIP 0.01 DM
C20	87-010-178-080	CHIP CAP 1000P					
C21	87-012-393-080	C-CAP,S 0.22-16 R K		C403	87-010-196-080		CHIP CAPACITOR,0.1-25
C22	87-016-083-080	C-CAP,S 0.15-16 RK		C404	87-010-260-040		CAP,E 47-25 SME
C23	87-010-197-080	CAP, CHIP 0.01 DM		C405	87-010-382-080		CAP, ELECT 22-25V
C24	87-010-186-080	CAP,CHIP 4700P		C421	87-010-382-080		CAP, ELECT 22-25V
C25	87-010-400-040	CAP,E 0.47-50		C422	87-010-196-080		CHIP CAPACITOR,0.1-25
C26	87-010-322-080	C-CAP,S 100P-50 CH					
C27	87-010-382-040	CAP,E 22-25 SME		C901	87-010-260-080		CAP, ELECT 47-25V
C28	87-010-545-040	CAP,E 0.22-50 SME		C902	87-010-196-080		CHIP CAPACITOR,0.1-25
C29	87-010-184-080	CHIP CAPACITOR 3300P(K)		CN1	87-A60-429-010		CONN,16P H TOC-A
C31	87-010-186-080	CAP,CHIP 4700P		CN2	87-099-199-010		CONN,6P 6216 H
C32	87-010-315-080	C-CAP,S 27P-50 CH		CN201	87-099-030-010		CONN,13P 6216H
C33	87-016-081-080	C-CAP,S 0.1-16 RK					
C35	87-010-196-080	CHIP CAPACITOR,0.1-25		CN203	87-099-212-010		CONN,5P 6216 V
C37	87-010-405-080	CAP, ELECT 10-50V		CN204	84-ZG1-648-010		CONN ASSY,6P
C38	87-010-263-080	CAP, ELECT 100-10V					<Z8RDL,M,YZ8RDL,M,Z8RDM,YZ8RDM>
C39	87-010-197-080	CAP, CHIP 0.01 DM		CN204	84-ZG1-675-010		CONN ASSY,6P (GETA)
C40	87-010-401-080	CAP, ELECT 1-50V					<Z8RDC,Z8RDC1,Z8RDL,C,Z8RDL,C1>
C41	87-016-081-080	C-CAP,S 0.1-16 RK		L11	87-005-849-080		COIL,10UH(CECS)
C42	87-010-263-080	CAP, ELECT 100-10V		L101	87-005-614-080		COIL 100UH LAV35 J
C43	87-010-197-080	CAP, CHIP 0.01 DM					
C44	87-010-263-080	CAP, ELECT 100-10V		L102	87-005-602-080		COIL,10UH LAV35 J
C46	87-010-196-080	CHIP CAPACITOR,0.1-25		LED901	87-A40-558-010		LED,SLZ-8128A-01-A
C47	87-010-260-080	CAP, ELECT 47-25V		M201	87-045-383-010		MOT,M9I50T28-2
C48	87-010-196-080	CHIP CAPACITOR,0.1-25					<Z8RDC,Z8RDC1,Z8RDL,C,Z8RDL,C1>
C49	87-010-404-080	CAP, ELECT 4.7-50V		M201	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
C50	87-010-197-080	CAP, CHIP 0.01 DM					<Z8RDL,M,YZ8RDL,M,Z8RDM,YZ8RDM>
C51	87-010-263-040	CAP,E 100-10		SFR101	87-A90-787-080		SFR,100K H HOKU
C52	87-012-156-080	C-CAP,S 220P-50 CH					
C71	87-012-393-080	C-CAP,S 0.22-16 R K		SW201	87-036-109-010		PUSH SWITCH
C101	87-016-369-080	C-CAP,S 0.033-25 B K		SW202	87-036-109-010		PUSH SWITCH
C102	87-016-081-080	C-CAP,S 0.1-16 RK		X101	87-A70-046-010		VIB,XTAL 16.934MHZ
C103	87-010-318-080	C-CAP,S 47P-50 CH					
				LED C.B			
				LED301	87-A40-263-080		LED,SLH-56PCT31 GRN
							<Z8RDC,Z8RDC1,Z8RDM,YZ8RDM>
				LED302	87-A40-268-080		LED,SLH-56DCT31 ORN
				LED303	87-A40-268-080		LED,SLH-56DCT31 ORN
							<Z8RDC,Z8RDC1,Z8RDM,YZ8RDM>
				LED303	87-A40-263-080		LED,SLH-56PCT31 GRN
							<Z8RDL,M,Z8RDL,C,Z8RDL,C1,YZ8RDL,M>

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
LED304	87-A40-263-080	LED,SLH-56PCT31 GRN	<Z8RDC,Z8RDC1,Z8RDM,YZ8RDM>

#### T-T C.B

C401	87-A11-148-080	CAP,TC U 0.1-50 Z F
CON401	86-NFZ-675-010	CONN,5P H 6216-11H
M401	87-045-364-010	MOTOR(BCH3B14)
PS401	87-026-573-010	SNSR,PHOTO GP1S53V

#### MOTOR C.B

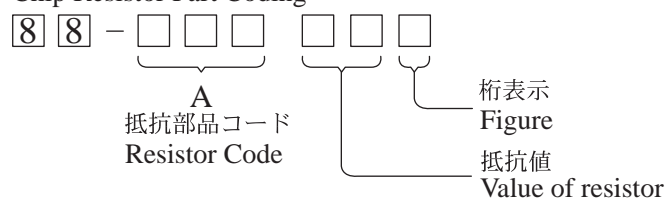
PIN3	91-564-722-110	CONN,PIN 6P
SW1	91-572-085-110	LEAF SWITCH

- Regarding connectors, they are not stocked as they are not the initial order items.  
The connectors are available after they are supplied from connector manufacturers upon the order is received.

#### ○チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち

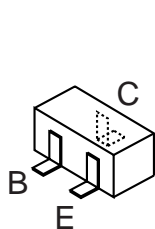
Chip Resistor Part Coding



#### チップ抵抗 Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード : A Resistor Code : A
				外形／Form	L	W	t	
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

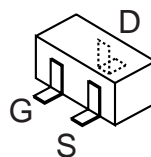
## TRANSISTOR ILLUSTRATION



2SA1235F  
2SC3052F  
DTC124XK  
DTC144TK

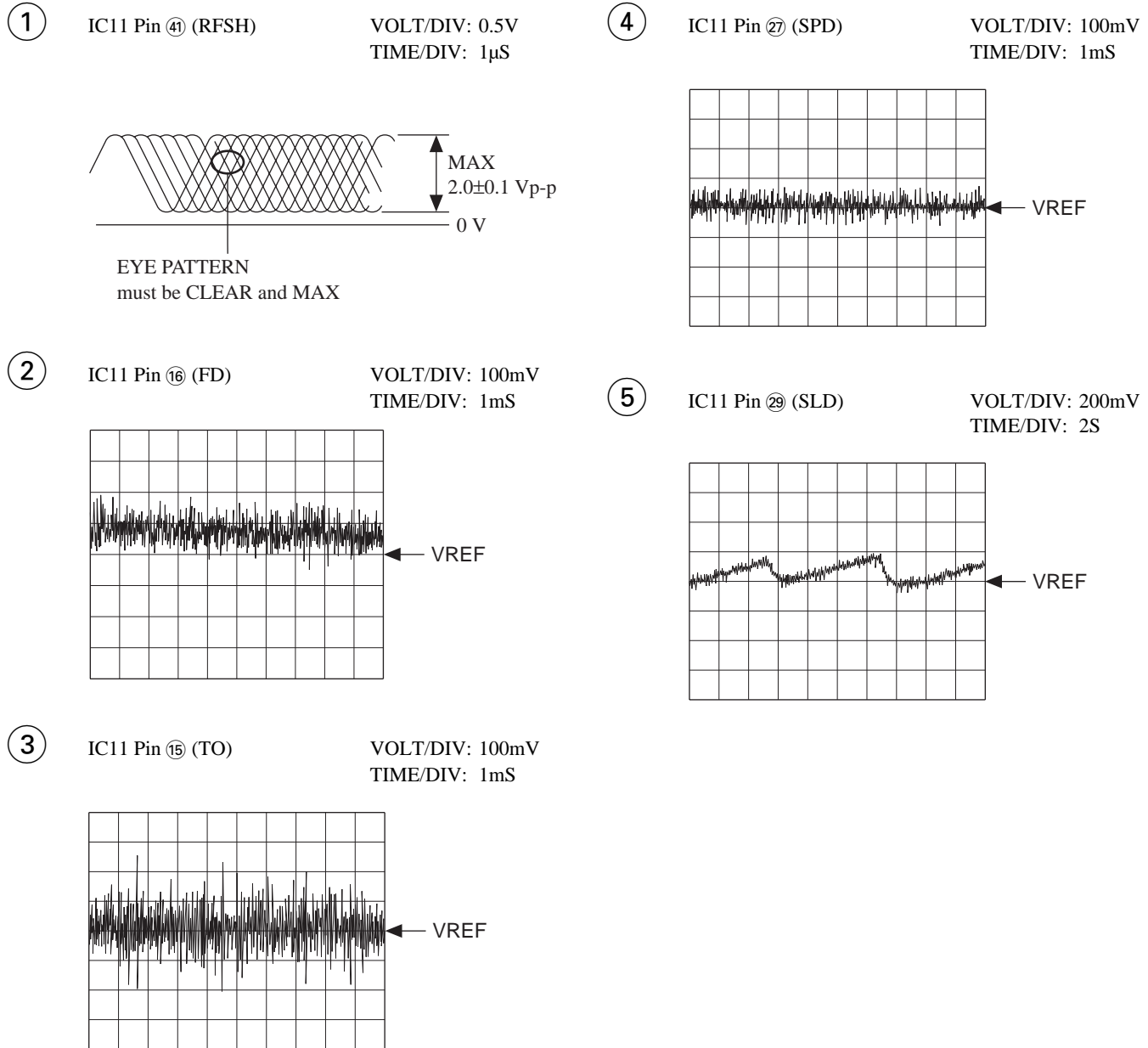


KTA1266GR



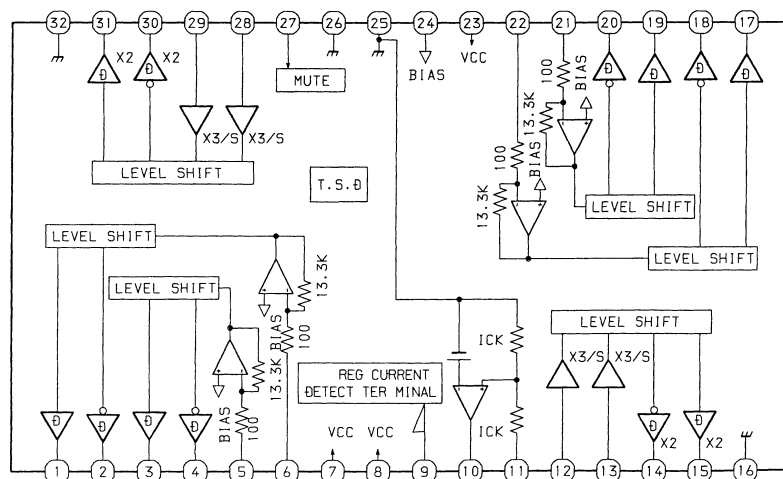
2SK2158

## WAVE FORM

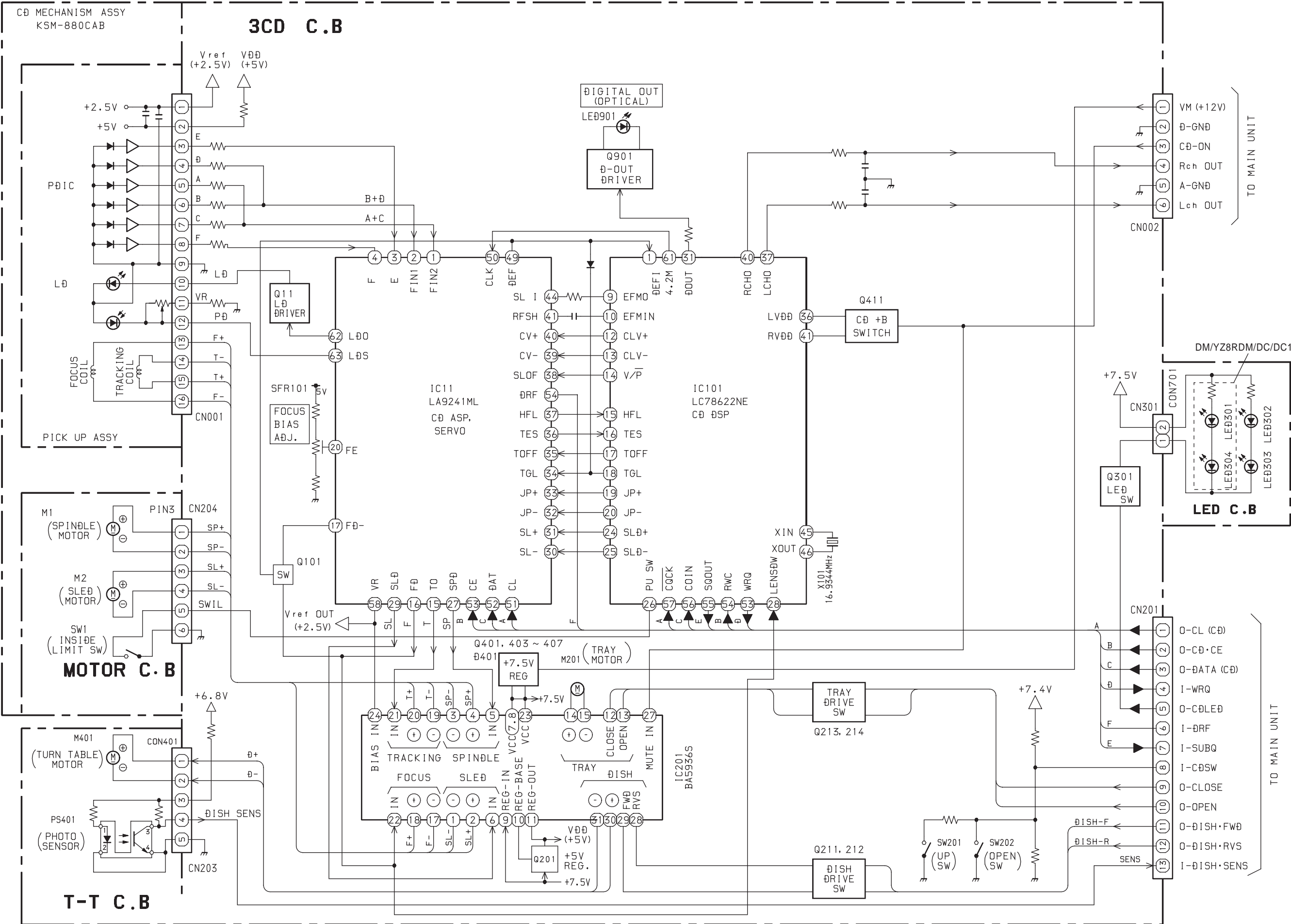


## IC BLOCK DIAGRAM

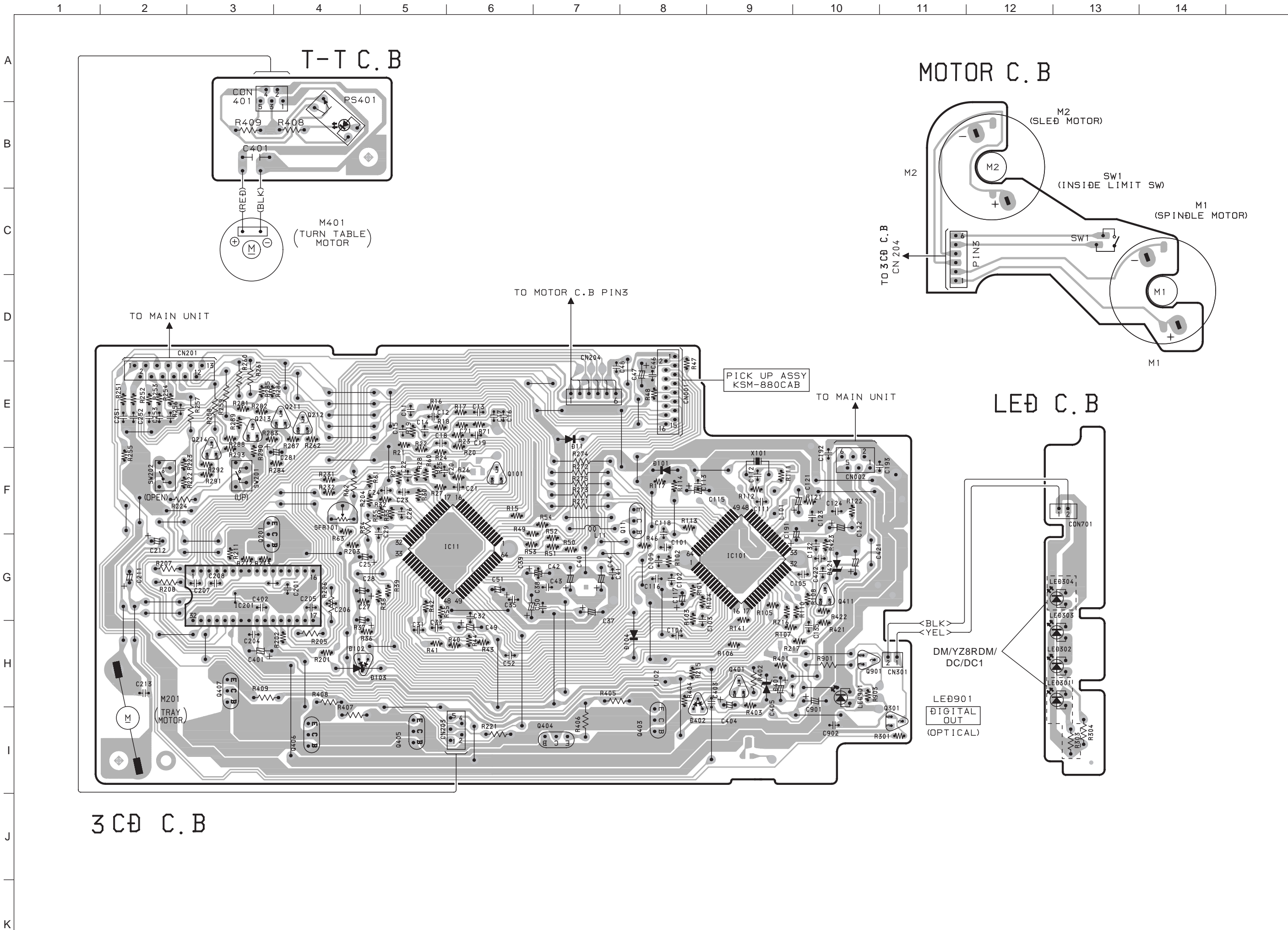
### IC, BA5936S



BLOCK DIAGRAM

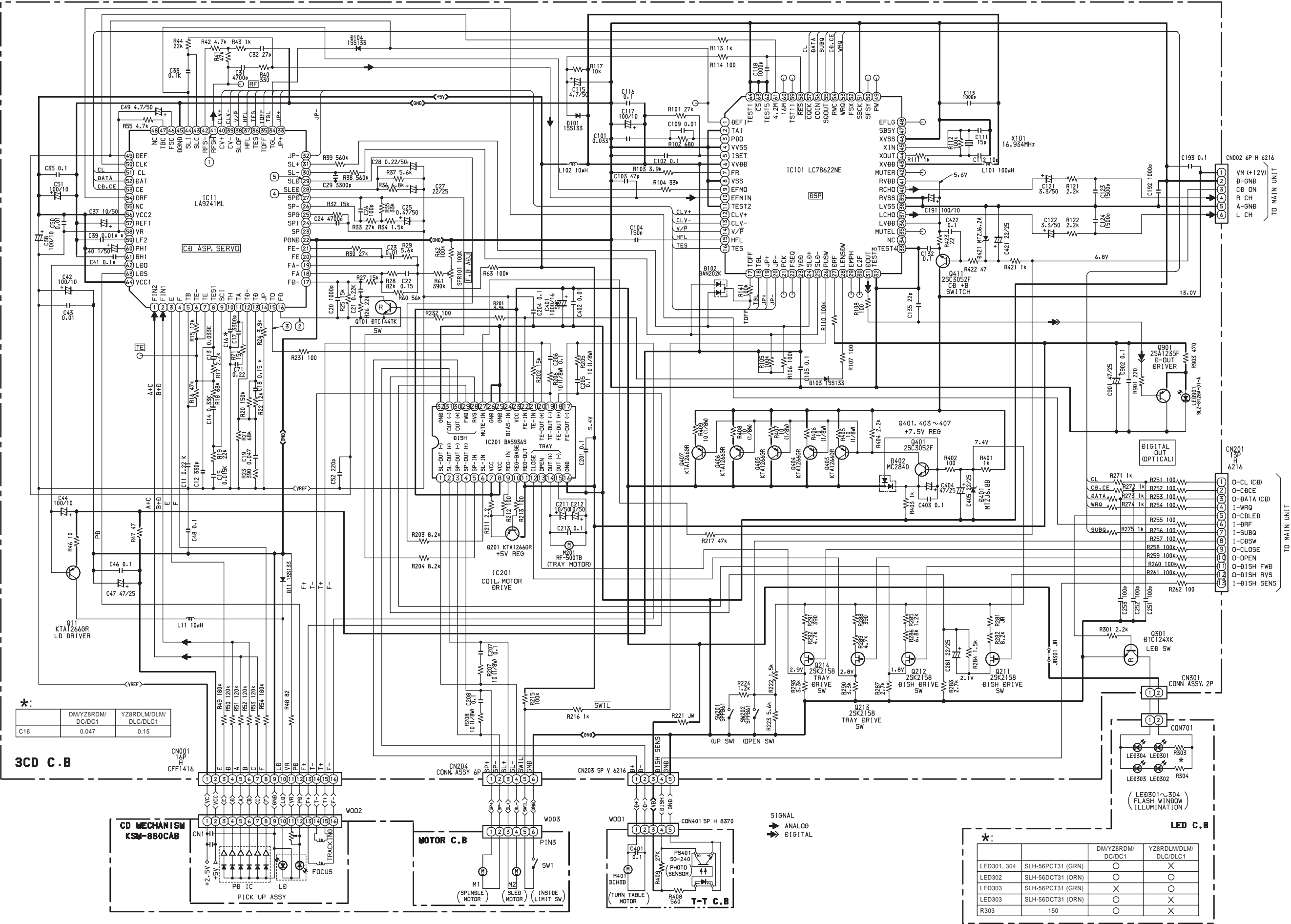


## WIRING








SCHEMATIC DIAGRAM











TEST MODE

1. How to Activate CD Test Mode  
Insert the AC plug while pressing the function CD button.  
All FL display tubes will light up, and the test mode will be activated.
2. How to Cancel CD Test Mode  
Either one of the following operations will cancel the CD test mode.
  - Press the function button. (except CD function button)
  - Press the power switch button.
  - Disconnect the AC plug
3. CD Test Mode Functions  
When test mode is activated, the following mode functions from No.1 to No.5 can be used by pressing the operation keys.

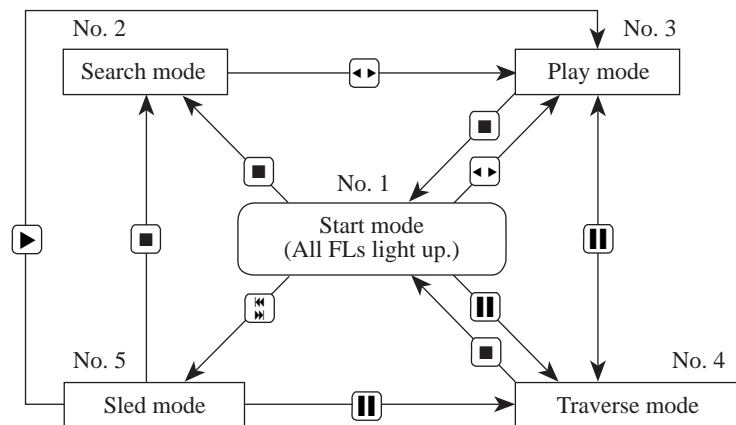
Mode/No.	Operation	FL display	Operation	Contents
Start mode No.1	Activation	All lamps light	<ul style="list-style-type: none"> <li>• Test mode is activated.</li> <li>• CD block power is ON.</li> </ul>	<ul style="list-style-type: none"> <li>• FL display check (All displays light.)</li> </ul>
Search mode  No.2	■ key		<ul style="list-style-type: none"> <li>• Laser diode turns always ON.</li> <li>• Continual focus search (The pickup lens repeats the full-swing up-down motion.)</li> <li>* Avoid continual searches that last for more than 10 minutes.</li> </ul> <p style="text-align: right;">* NOTE 1</p>	<ul style="list-style-type: none"> <li>• APC circuit check</li> <li>• Laser current measurement (Laser current control. Across a resistor connected between emitter and GND.)</li> </ul> <p>FOCUS SERVO</p> <ul style="list-style-type: none"> <li>• Check focus search waveform</li> <li>• Check focus error waveform (FOK/FZC are not monitored in the search mode)</li> </ul>
Play mode  No.3	◀ ▶ key		<ul style="list-style-type: none"> <li>• Normal playback</li> <li>• Focus search is continued if TOC cannot be read.</li> </ul> <p style="text-align: right;">* NOTE 1</p>	<p>FOCUS SERVO/TRACKING SERVO</p> <p>CLV SERVO/SLED SERVO</p> <p>Check DRF</p>
Traverse mode  No.4	key		<ul style="list-style-type: none"> <li>• During normal disc playback</li> </ul> <p>Press once; tracking servo OFF</p> <p>Press twice; tracking servo ON</p> <p style="text-align: right;">* NOTE 2</p>	<p>TRACKING SERVO ON/OFF</p> <p>Tracking balance (traverse) check</p>
Sled mode  No.5	⏮ key ⏭ key	All lamps light	<ul style="list-style-type: none"> <li>• Pickup moves to the outermost track</li> <li>• Pickup moves to the innermost track</li> </ul> <p style="text-align: right;">* NOTE 3</p> <p>(During playback, machine operates normally.)</p>	<p>SLED SERVO</p> <p>Check SLED mechanism operation</p>

\* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.

\* NOTE 2: Do not press the  or  keys when the machine is in the  status is active. If they are pressed, playback will not be possible after the  status has been canceled. If the  or  keys are pressed in the  status, press the  key and return to the start mode (No.1).

\* NOTE 3: When pressing the  or  keys, take care to avoid damage to the gears. Because the sled motor is activated when the  or  keys are pressed, even when the pick-up is at the outermost or innermost track.

4. Operation Outline
- The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.



If the DISC DIRECT PLAY button is pressed, the machine performs the same operation as the PLAY button is pressed as shown. If the tray is opened by pressing OPEN/CLOSE button during Play mode or Traverse mode, the machine returns to the Start mode.

## IC DESCRIPTION

## IC, LC78622NE

Pin No.	Pin Name	I/O	Description	
1	DEFI	I	Defect sense signal (DEF) input pin. (Connect to 0V when not used).	
2	TAI	I	For PLL.	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.
3	PDO	O		Phase comparator output pin to control external VCO.
4	VVSS	—		GND pin for built-in VCO. Be sure to connect to 0V.
5	ISSET	I		Pin to which external resistor adjusting the PD0 output current.
6	VVDD	—		Power supply pin for built-in VCO.
7	FR	I		Pin for VCO frequency range adjustment.
8	VSS	—	Digital system GND. Be sure to connect to 0V.	
9	EFMO	O	For slice level control.	EFM signal output pin.
10	EFMIN	I		EFM signal input pin.
11	TEST2	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
12, 13	CLV+, CLV–	O	Disc motor control output. Three level output is possible using command.	
14	V/P	O	Rough servo or phase control automatic selection monitoring output pin. Rough servo at H. Phase servo at L.	
15	HFL	I	Track detect signal input pin. Schmidt input.	
16	TES	I	Tracking error signal input pin. Schmidt input.	
17	TOFF	O	Tracking OFF output pin.	
18	TGL	O	Tracking gain selection output pin. Gain boost at L.	
19, 20	JP+, JP–	O	Track jump control signal output pin. Three level output is possible using command.	
21	PCK	O	EFM data playback clock monitoring pin 4.3218 MHz when phase is locked in.	
22	FSEQ	O	Sync signal detection output pin. H when the sync signal which is detected from EFM signal and thesync signal which is internally generated agree.	
23	VDD	—	Digital system power supply pin.	
24	SLD+	I/O	General purpose input/output pin 1 to 5.	The pin is controlled by the serial data command from microprocessor. When the pin is not used, set the pin to the input terminal and connect to 0V, or alternately set the pin to output terminal and leave the pin open.
25	SLD-	I/O		
26	PUSW	I/O		
27	DRF	I/O		
28	LENSDW	I/O		
29	EMPH	O	De-emphasis monitor output pin. De-emphasis disc is being played back at H.	
30	C2F	O	C2 flag output pin.	
31	DOUT	O	DIGITAL OUT output pin. (EIAJ format).	
32, 33	TEST3, TEST4	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
34	N.C.	—	Not used. Set the pin to open.	
35	MUTEL	O	L-channel 1-bit DAC.	L-channel mute output pin.
36	LVDD	—		L-channel power supply pin.
37	LCHO	O		L-channel output pin.
38	LVSS	—		L-channel GND. Be sure to connect to 0V.
39	RVSS	—	R-channel 1-bit DAC.	R-channel GND. Be sure to connect to 0V.
40	RCHO	O		R-channel output pin.
41	RVDD	—		R-channel power supply pin.
42	MUTER	O		R-channel mute output pin.

Pin No.	Pin Name	I/O	Description
43	XVDD	—	Crystal oscillator power supply pin.
44	XOUT	O	Pin to which external 16.9344 MHz crystal oscillator is connected.
45	XIN	I	
46	XVSS	—	Crystal oscillator GND pin. Be sure to connect to 0V.
47	SBSY	O	Subcode block sync signal output pin.
48	EFLG	O	C1, C2, single and dual correction monitoring pin.
49	PW	O	Subcode P, Q, R, S, T, U and W output pin.
50	SFSY	O	Subcode frame sync signal output pin. Falls down when subcode enters standby.
51	SBCK	I	Subcode read clock input pin. Schmidt input. (Be sure to connected to 0V when not in use.)
52	FSX	O	Pin outputting the 7.35 kHz sync signal which is generated by dividing frequency of crystal oscillator.
53	WRQ	O	Subcode Q output standby output pin.
54	RWC	I	Read/write control input pin. Schmidt input.
55	SQOUT	O	Subcode Q output pin.
56	COIN	I	Command input pin from microprocessor.
57	$\overline{\text{CQCK}}$	I	Command input read clock or subcode read input clock from SQOUT pin
58	$\overline{\text{RES}}$	I	LC78622 reset input pin. Set this pin to L once when the main power is turned on.
59	TST11	O	Test signal output pin. Use this pin as open (normally L output).
60	16M	O	16.9344 MHz output pin.
61	4.2M	O	4.2336 MHz output pin.
62	TEST5	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.
63	$\overline{\text{CS}}$	I	Chip select signal input pin with built-in pull-down resistor. Be sure to connect to 0V while it is not controlling.
64	TEST1	I	Test signal input pin without built-in pull-down resistor. Be sure to connect to 0V.

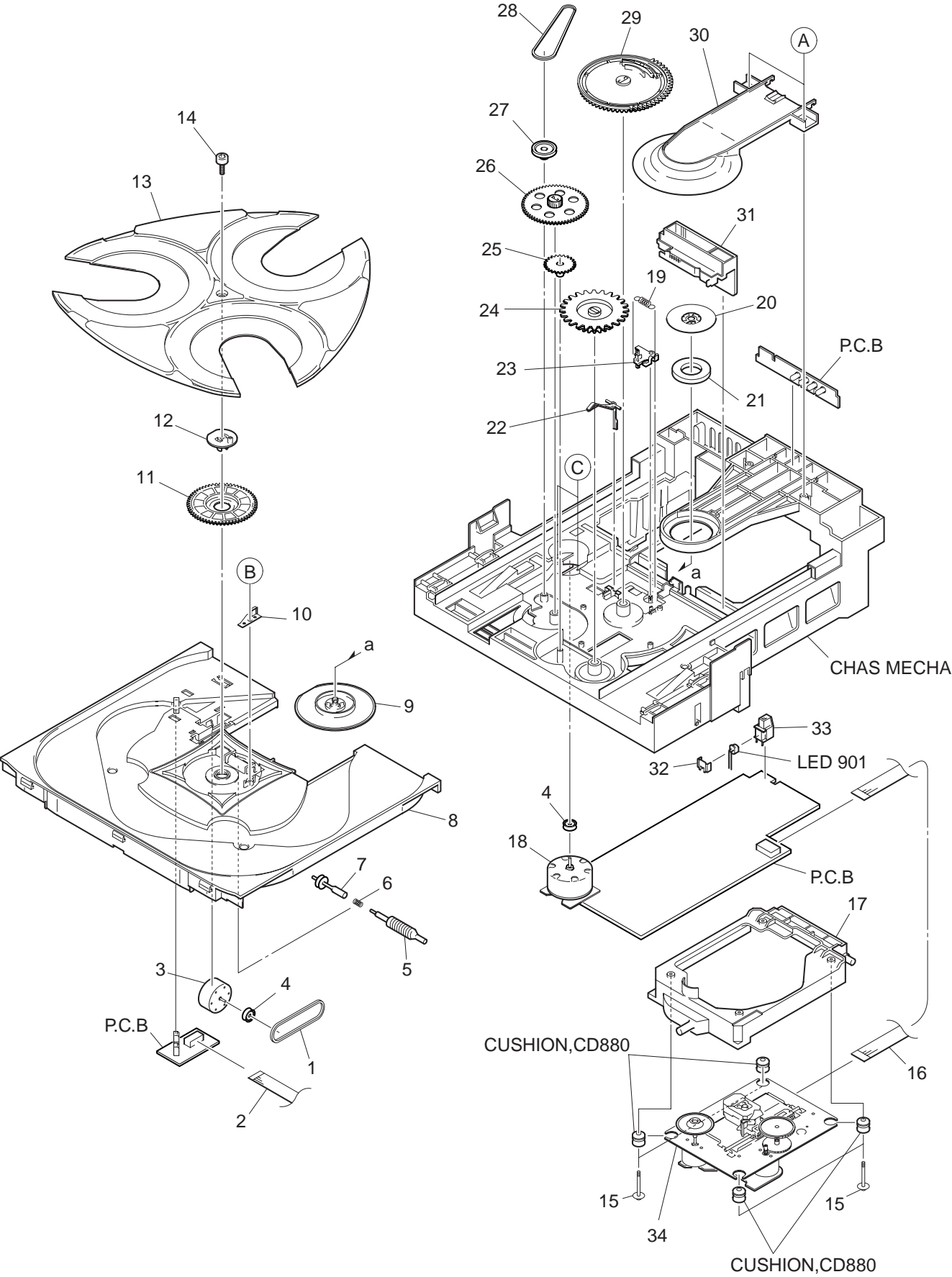
Note: The same potential must be applied to the respective power supply terminals. (VDD, VVDD, LVDD, RVDD, XVDD)

## IC, LA9241ML

Pin No.	Pin Name	I/O	Description
1	FIN2	I	Pin to which external pickup photo diode is connected. RF signal is created by adding with the FIN1 pin signal. FE signal is created by subtracting from the FIN1 pin signal.
2	FIN1	I	Pin to which external pickup photo diode is connected.
3	E	I	Pin to which external pickup photo diode is connected. TE signal is created by subtracting from the F pin signal.
4	F	I	Pin to which external pickup photo diode is connected.
5	TB	I	DC component of the TE signal is input.
6	TE–	I	Pin to which external resistor setting the TE signal gain is connected between the TE pin.
7	TE	O	TE signal output pin.
8	TESI	I	TES “Track Error Sense” comparator input pin. TE signal is passed through a band-pass filter then input.
9	SCI	I	Shock detection signal input pin.
10	TH	I	Tracking gain time constant setting pin.
11	TA	O	TA amplifier output pin.
12	TD–	I	Pin to which external tracking phase compensation constants are connected between the TD and VR pins.
13	TD	I	Tracking phase compensation setting pin.
14	JP	I	Tracking jump signal (kick pulse) amplitude setting pin.
15	TO	O	Tracking control signal output pin.
16	FD	O	Focusing control signal output pin.
17	FD–	I	Pin to which external focusing phase compensation constants are connected between the FD and FA pins.
18	FA	I	Pin to which external focusing phase compensation constants are connected between the FD– and FA– pins.
19	FA–	I	Pin to which external focusing phase compensation constants are connected between the FA and FE pins.
20	FE	O	FE signal output pin.
21	FE–	I	Pin to which external FE signal gain setting resistor is connected between the FE pin.
22	PGND	—	Analog signal GND.
23	SP	—	No connection.
24	SP1	O	Single ended output of the CV+ and CV– pin input signal.
25	SPG	I	Pin to which external spindle gain setting resistor in 12 cm mode is connected.
26	SP–	I	Pin to which external spindle phase compensation constants are connected together with SPD pin.
27	SPD	O	Spindle control signal output pin.
28	SLEQ	I	Pin to which external sled phase compensation constants are connected.
29	SLD	O	Sled control signal output pin.
30, 31	SL–, SL+	I	Sled advance signal input pin from microprocessor.
32, 33	JP–, JP+	I	Tracking jump signal input pin from DSP.
34	TGL	I	Tracking gain control signal input from DSP. Low gain when TGL = H.
35	TOFF	I	Tracking off control signal input pin from DSP. Off when TOFF = H.

Pin No.	Pin Name	I/O	Description
36	TES	O	Pin from which TES signal is output to DSP.
37	HFL	O	“High Frequency Level” is used to judge whether the main beam position is on top of bit or on top of mirror.
38	SLOF	I	Sled servo off control input pin.
39, 40	CV–, CV+	I	CLV error signal input pin from DSP.
41	RFSH	O	RF output pin.
42	RFS–	I	RF gain setting and EFM signal 3T compensation constant setting pin together with RFSM pin.
43	SLC	O	“Slice Level Control” is the output pin which controls the RF signal data slice level by DSP.
44	SLI	I	Input pin which control the data slice level by the DSP.
45	DGND	—	Digital system GND.
46	FSC	O	Output pin to which external focus search smoothing capacitor is connected.
47	TBC	I	“Tracking Balance Control” EF balance variable range setting pin.
48	NC	—	No connection.
49	DEF	O	Disc defect detector output pin.
50	CLK	I	Reference clock input pin. 4.23 MHz of the DSP is input.
51	CL	I	Microprocessor command clock input pin.
52	DAT	I	Microprocessor command data input pin.
53	CE	I	Microprocessor command chip enable input pin.
54	DRF	O	“Detect RF” RF level detector output.
55	NC	I	No connection.
56	VCC2	—	Servo system and digital system Vcc pin.
57	REF1	—	Pin to which external bypass capacitor for reference voltage is connected.
58	VR	O	Reference voltage output pin.
59	LF2	I	Disc defect detector time constant setting pin.
60	PH1	I	Pin to which external capacitor for RF signal peak holding is connected.
61	BH1	I	Pin to which external capacitor for RF signal bottom holding is connected.
62	LDO	O	APC circuit output pin.
63	LDS	I	APC circuit input pin.
64	VCC1	—	RF system Vcc pin.

MECHANICAL EXPLODED VIEW 1/1



## MECHANICAL PARTS LIST 1/1

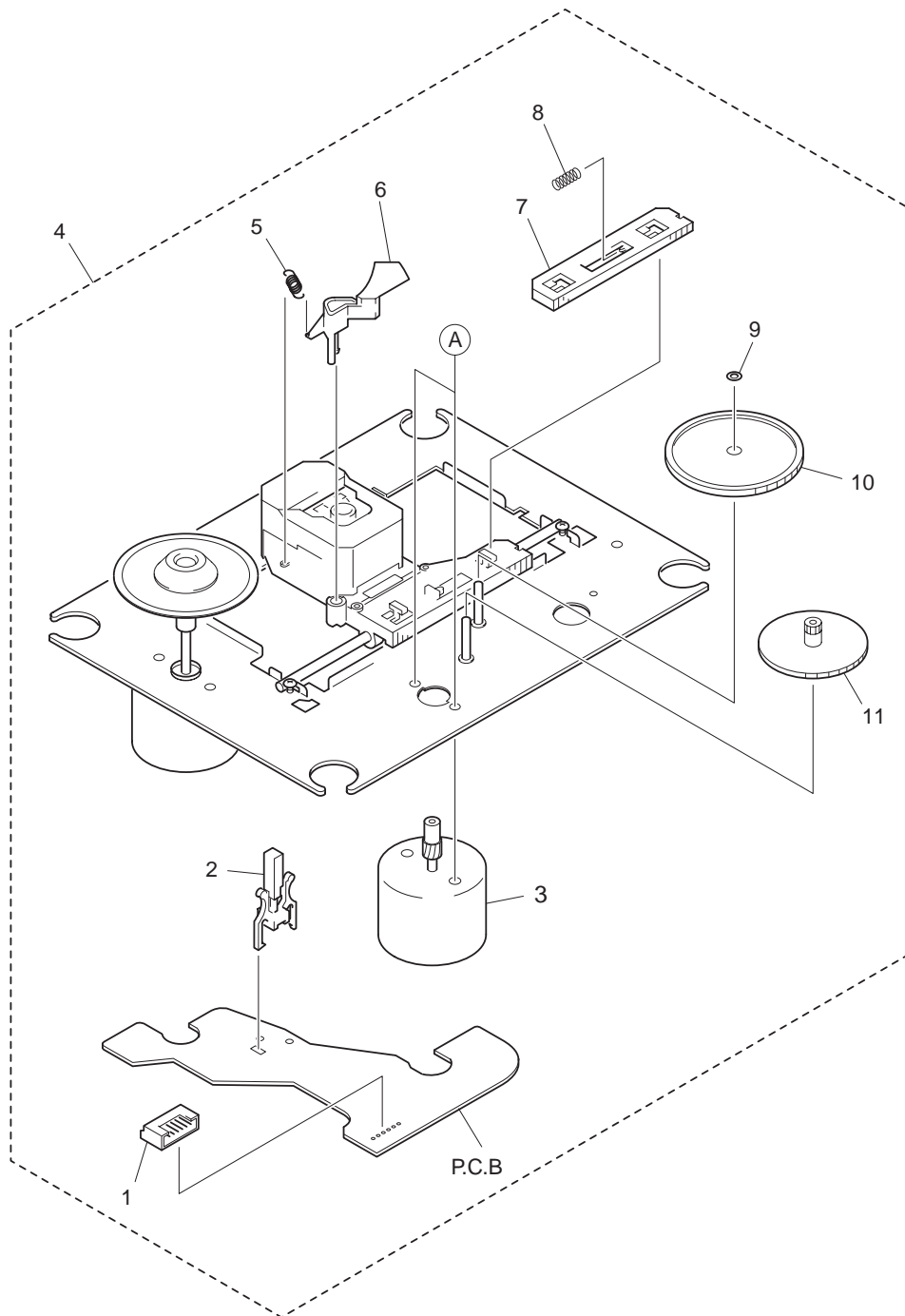
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。  
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	84-ZG1-225-010		BELT,SQ1.0-63.3	21	83-ZG3-604-010		RING,MAG 2
2	84-ZG1-673-010		F-CABLE,5P 1.25 210MM BLACK N	22	83-ZG3-213-010		LVR,SW
			<Z8RDC,Z8RDC1,Z8RDM,YZ8RDM>	23	84-ZG1-208-210		LEVER,CAM
2	84-ZG1-672-010		F-CABLE,5P 1.25 210MM WHITE N				<Z8RDC,Z8RDC1,Z8RDLCL,Z8RDLCL1>
			<Z8RDLM,Z8RDLC,Z8RDLC1,YZ8RDLM>	23	84-ZG1-266-010		LEVER,CAM 8
3	87-045-364-010		MOTOR(BCH3B14)				<Z8RDLM,YZ8RDLM,Z8RDM,YZ8RDM>
4	84-ZG1-267-010		PULLEY,LOAD MO 8	24	84-ZG1-205-210		GEAR,TRAY (*)
5	84-ZG1-238-010		GEAR,WORM N	25	81-ZG1-250-110		GEAR,TRAY RELAY MK2*
6	84-ZG1-248-010		SPR-C,WORM				<Z8RDC,Z8RDC1,Z8RDLCL,Z8RDLCL1>
7	84-ZG1-273-010		PULLEY,WORM 4	25	81-ZG1-291-110		GEAR,TRAY RELAY NO3
			<Z8RDC,Z8RDC1,Z8RDLCL,Z8RDLCL1>				<Z8RDLM,YZ8RDLM,Z8RDM,YZ8RDM>
7	84-ZG1-239-210		PULLY,WORM N	26	84-ZG1-206-110		GEAR,RELAY
			<Z8RDLM,YZ8RDLM,Z8RDM,YZ8RDM>				<Z8RDC,Z8RDC1,Z8RDLCL,Z8RDLCL1>
8	84-ZG1-008-210		TRAY,NO3	26	84-ZG1-274-010		GEAR,RELAY 8
							<Z8RDLM,YZ8RDLM,Z8RDM,YZ8RDM>
9	84-ZG1-277-010		HLDR,MAGENT V<Z8RDLM,YZ8RDLM>	27	84-ZG1-207-010		PULLEY,RELAY
9	8A-ZG1-210-010		HLDR,MAGNET 23				<Z8RDLM,YZ8RDLM,Z8RDM,YZ8RDM>
			<Z8RDC,Z8RDC1,Z8RDLCL,Z8RDLCL1>	27	84-ZG1-271-010		PULLEY,RELAY 8
9	81-ZG1-277-310		HLDR,MAGNET N<Z8RDM,YZ8RDM>				<Z8RDC,Z8RDC1,Z8RDLCL,Z8RDLCL1>
10	84-ZG1-259-010		SPR-P,WORM	28	84-ZG1-209-010		BELT,SQ1.8-117.7
11	84-ZG1-269-010		GEAR,MAIN TT 4	29	84-ZG1-215-410		GEAR,MAIN CAM BLU
12	84-ZG1-224-010		LEVER,TT	30	84-ZG1-011-010		REFLECTOR,CD
13	84-ZG1-005-210		TURNTABLE,NO1(*)	31	84-ZG1-216-310		SLIDE,MECHA CAM YEL
14	81-ZG1-239-010		S-SCREW,TT	32	84-ZG1-261-010		LID,OPTICAL
15	8A-ZG1-201-010		S-SCREW,MECH 880	33	84-ZG1-244-310		CABI,OPTICAL
16	85-NFT-611-110		FF-CABLE 16P-1.0				<Z8RDLM,YZ8RDLM,Z8RDM,YZ8RDM>
17	84-ZG1-299-310		HLDR,MECHA NO3	33	84-ZG1-270-010		CABI,OPTICAL 8
18	87-045-383-010		MOT,M9150T28-2				<Z8RDC,Z8RDC1,Z8RDLCL,Z8RDLCL1>
			<Z8RDC,Z8RDC1,Z8RDLCL,Z8RDLCL1>	34	M8-ZZK-C90-070		KSM-880CAB
18	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)	A	87-067-703-010		TAPPING SCREW, BVT2+3-10
			<Z8RDLM,YZ8RDLM,Z8RDM,YZ8RDM>	B	87-067-981-010		BVT2+3-6 BLK
19	84-ZG1-211-010		SPR-E CAM S	C	87-251-070-410		U+2.6-3
20	81-ZG1-255-110		PLATE,MAGNET MK2				<Z8RDC,Z8RDC1,Z8RDLCL,Z8RDLCL1>

## COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		

## CD MECHANISM EXPLODED VIEW 1/1



## CD MECHANISM PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。  
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	91-564-722-110		CONN,PIN 6P
2	91-572-085-110		LEAF SWITCH
3	9X-264-655-010		SL MOTORR ASSY
4	M8-ZZK-C90-070		KSM-880CAB
5	92-647-416-020		SPRING EXTENSION
6	92-647-595-020		SHUTTER B
7	92-647-732-010		NS SLIDE RACK
8	92-647-742-010		SPRING COMPRESSION
9	93-321-813-110		POLI WASHER
10	92-647-407-010		GEAR A
11	92-647-408-020		GEAR B
A	93-713-786-510		SCREW,+P2-3



## REFERENCE NAME LIST

### ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

### MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

